Year One: Approach, Activities, Products

Original Water Resource Management Program Proposal -- $1.65 M annually

Legislative Appropriation -- $480K

Year One:

- Developing Procedures and System for Data Collection, Compatible Databases, Aquifer Characterization.

- Dakota Sandstone in NW IA used as the prototype.

- Collect and analyze relevant data for the Dakota Sandstone:

  --Withdrawals
  --Aquifer properties – storage and transmission
  --Geologic "container" characterization
  --GW Quality
  --GW elevation data

- Place in Compatible Databases—Roots of a "Water Resources Enterprise" Database

- Begin Development of a Web – Based outlet Information Outlet

- Develop a regional groundwater model for the Aquifer—a "show-able" work in progress by early 2008.

Year One Continued:

- Restarting Groundwater Level measurements in cooperation with USGS
- Supporting 2 Long-Term Stream Gages that would have been abandoned
- Data Acquisition:

  --48,000 feet of priority Dakota well cuttings described and logged. Logging equipment updated.

  --4,500 existing well/drillers logs reviewed.

  --150 complete water quality analyses databased/GIS'ed.

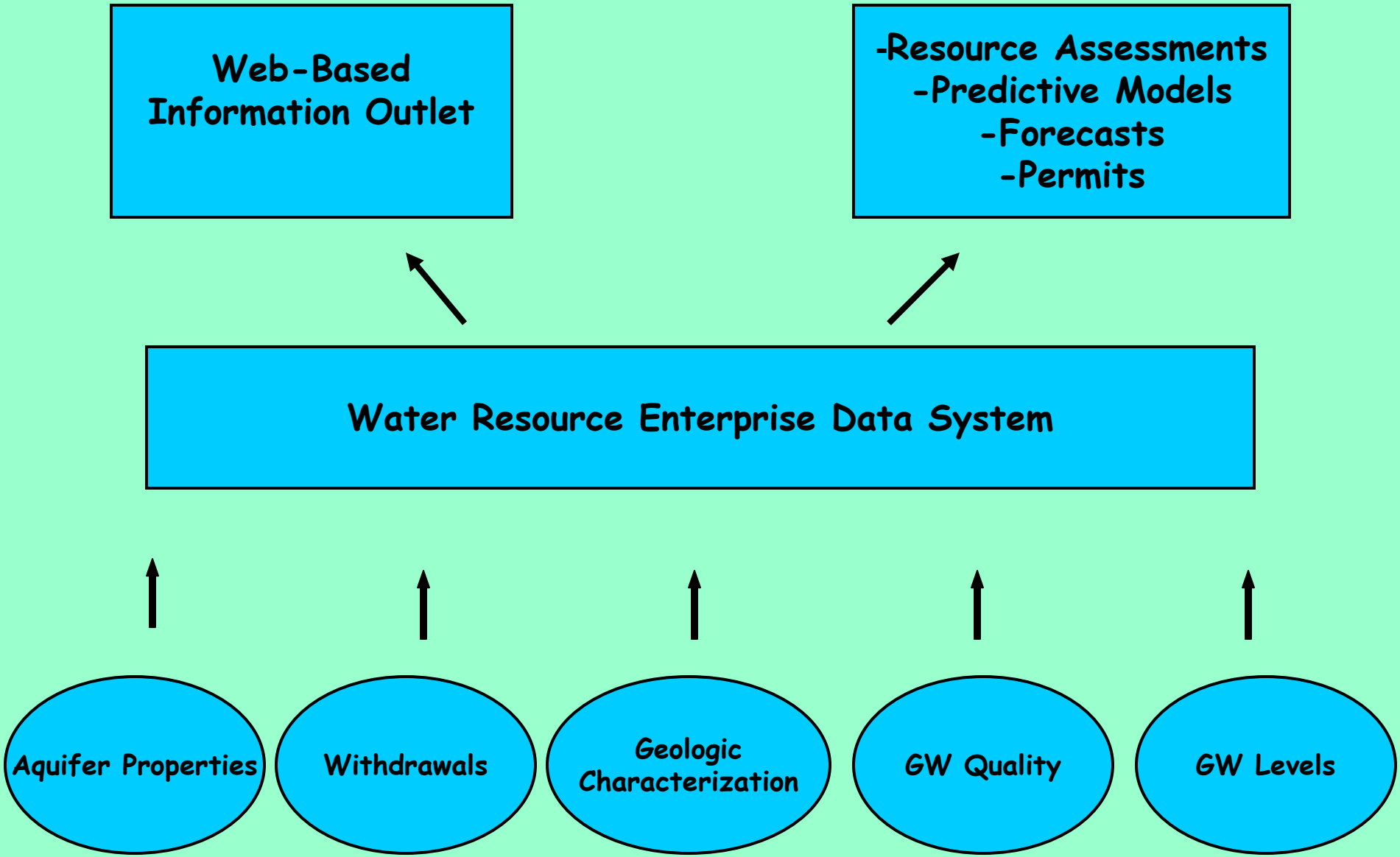
  --Dakota GW elevations compiled and mapped.

  --Monthly and annual withdrawals from about half of the Dakota permits databased.

  --Aquifer properties from DNR permit files and IGS records compiled. More being retrieved from NW IA Consultants.

  --Compatible data holding system in place.

  --Modeling software running county-scale tests. "Layers" for regional model approaching completion.


Web-Based
Information Outlet
-Resource Assessments
-Predictive Models
-Forecasts
-Permits
Water Resource Enterprise Data System
Aquifer Properties
Withdrawals
Geologic
Characterization
GW Quality
GW Levels

Beyond Year One – An Ongoing Program

An ongoing, fully funded Water Resource Program would:

- Replicate and improve data acquisition, analysis, and modeling for our major bedrock and stream - valley aquifer systems.
- Fully develop and implement the "Enterprise" database and web-outlets.
- Construct and maintain 20 stream-flow gages.
- Increase groundwater level monitoring ~ 100%.
- Continue developing data-gathering partnerships including on-line methods.
- Enhanced permit reviews and analysis, drought and conservation planning.
- Work with stakeholders and partners on the technical demands of policy issues.
- Maintain critical staff expertise and skills regarding water resources.
- Provide the hydrogeological science inputs for a 21st Century State Water Plan.